



Preliminary Call for Participation

NIPS*2000 Workshop on

Software Support for Bayesian Analysis Systems

Breckenridge, Colorado, December 1/2, 2000

URL: <http://ase.arc.nasa.gov/nips2000>

Bayesian Analysis is an established technique for many data analysis applications. The development of application software for any specific analysis problem, however, is a difficult and time-consuming task. Programs must be tailored to the specific problem, need to represent the given statistical model correctly, and should preferably run efficiently. Over the last years, a variety of different libraries, shells, and synthesis systems for Bayesian data analysis has been implemented which are intended to simplify application software development. The goal of this workshop is to bring together developers of such generic Bayesian software packages and tools together with the developers of generic algorithm schemas (more recent ones amenable to automated effort include Structural EM, Fisher Kernel method, mean-field, etc.), and software engineering experts. It is intended as a forum to discuss and exchange the different technical approaches as for example usage of libraries, interpretation of statistical models (e.g., Gibbs sampling), or software synthesis based on generic algorithm schemas. The workshop aims to discuss the potential and problems of generic tools for the development of efficient Bayesian data analysis software tailored towards specific applications.

Workshop format: This is a one-day workshop. It starts with an introductory invited talk which presents an overview of Bayesian analysis techniques and software systems (speaker TBD). Two technical sessions with paper presentations and generous time for discussions will follow. The third session will be devoted to system demonstrations. We will provide all participants and system developers with a small yet representative data analysis problem from a NASA application. We intend to discuss the strengths and weaknesses of the different systems and approaches on this basis. The workshop will end with a general round-table discussion on future trends for implementing Bayesian analysis software. A moderated discussion is preferred over a formal panel.

Potential participants: Developers and users of Bayesian/Neural libraries and software packages such as JavaBayes, AutoClass, BayesPack, BUGS, BayesNet Toolbox, PDP++, etc. All researchers interested in the question on how to get from the statistical model to running code?

Contributions: If you are planning to attend this workshop as a participant and/or are interested to present your work, please send a short (1-4 pages) system description, technical paper, or position paper to one of the workshop organizers no later than **September, 30 2000**.

Preliminary PC:

L. Getoor, Stanford
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Organizers:

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